OHSAS ISO 18001 Comments

Major Elements of System – *MUST* Involve Workers

- Occupational Safety and Health Policy
- Planning
  - Identify and Prioritize Hazards, Risks, and Controls
  - Objectives, Targets, and Requirements
- Implementing
  - Perform Facility & Job Risk Assessments
- Monitoring and Measurement
- Checking and Corrective Action
- Management Review

Planning & Implementation

Typically hazard and risk assessment methods must:

- Be proactive rather than reactive
- Group risks into appropriate categories
- Identify those important risks that are to be eliminated, reduced in likelihood or controlled
- Be consistent with past experience of the organization and with the capabilities of the typical control measures it uses
- Contribute to the determination of facility requirements, identification of training needs and development of operational controls
- Allow for monitoring of required actions to ensure they are effective and completed on-time.

Facility Risk Assessment (FRA)

Includes Both Facility and Area-Specific Hazards

Facility-Wide Analysis – Some hazards may arise from activities or tasks not associated with a specific job. The facility itself and its general operations present certain exposures to hazards.

For example, electrical equipment, access and egress, fire hazards, heat or cold conditions, tripping hazards, noise exposures, radiation exposures and chemical exposures. These types of hazards are addressed with a facility-wide risk assessment.

Area-Specific Analysis – Area specific risk analysis are used to assess the majority of safety topics that exist within a given type of operational area or given type of operational room within a facility.

For example, welding and brazing areas. Safety topics will likely be common to a specific area type. That is, if more than one area of the same type exists within a facility, then a single risk analysis is appropriate.

Job Risk Assessment (JRA)

No guidance given for Facility vs. Job

Job - A job is a sequence of separate steps or activities that together accomplish a work goal. Some jobs can be defined broadly, for example: "making concrete shielding block," "building a beam-enclosure," or "decommissioning a beam-line." Such broad definitions are not very useful for hazard identification, however. It is too easy to overlook an included task that may present a hazard. At the other extreme, a narrow definition-such as "tighten a screw" or "push the button" is also not suitable, since one would be faced with analyzing thousands or millions of minute tasks. The right answer lies in a definition that is broad enough to result in a relatively small number of steps, each of which can easily be analyzed for associated hazards.

Example of the difference (I think): Laser Operations occur throughout Physics, so it gets a FRA. But, alignment of a particular laser, or sample preparation by laser ablation gets a JRA.

C-A Jobs Evaluated for OSH Risks

- Transportation
- Material handling-machinery
- Material handling-manual
- Electrical work- routine
- Electrical work-high energy
- Electrical working hot
- Radiation/contamination work
- Work with lasers
- Pressurized system work
- Vacuum system work
- Biological/animal work
- Cable pulling
- Operations
- Emergency response
- Waste handling
- Work with hazardous materials
- Adding cooling tower chemicals
- Hi-pot testing
- Crane use by C-AD staff
- Forklift use by C-AD staff
- Welding/welding helper
- Tours
- Confined space work
- Machining Work (lathes, drill presses)
- Office Work

FO Job Risk Assessments (Partial List)

Crafts	JRA Number	Title
Facilities & Operations		
All Crafts	JRA-F&O-GEN-PWRTL	Using Hand Held Power Tools
All Crafts	JRA-F&O-GEN-HANDTL	Using Hand Tools
All Crafts	JRA-F&O-GEN-DRIVING	Driving
Plant Engineering		
All Crafts	JRA-EP-GEN-CONCRETE PENETRATION	Concrete or Masonry Penetration
	JRA-EP-GEN-ELECTRICTEST	Troubleshooting or Testing Energized Equipment but not Working Hot.
	JRA-EP-GEN-MANHOLES	Maintenance and Work in Manholes
	JRA-EP-GENIE TZ-34-20	Using Genie TZ-34-20-Aerial Lift Roof Access
	JRA-EP-GEN-Grove 125 ft Manlift	Using Grove 125 ft Manlift
Cabinetmaker	JRA-EP-CAB-01	Installation and Repair of Cabinetwork.
	JRA-EP-CAB-02	Cabinetmaker and Fabricator of Related Products
	JRA-EP-CAB-03	Preventative Maintenance of Fixed Shop Equipment

FO OSH Audits & Assessments

- 133 Risk Assessments for skill-of-the-worker tasks identified
- 34 Facility Risk Assessments identified
- **31 Improvements from Risk Assessments**

18001 Implementation Schedule

	FY05												FY06
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Targets & Objectives	◆												
Gap Analysis	◆												
List of Jobs & Facilities		◆											
Procedures							◆						
Job/Facility Risk Assessments							◆						
Training							◆						
Records							◆						
Desk Audit (NSF)								◆					
Internal Audit								◆					
Management Review & Audit									◆				
Operational Readiness Review (NSF)										◆			
Registration Audit (NSF)													◆

Plan Of Attack?

- Make Initial List of Facilities & Jobs
- Prioritize By Hazard Level or Importance
- Decide Number and Make Up of Working Groups
  - Scientists (include Theory?)
  - Administrators (include GLs?)
  - Office Workers (include Theory?)
  - Laboratory Workers
  - Chemical Workers
  - Shop Workers
  - Others? Need a finer “grid”? Maybe too fine already?
- Working Groups Do F/JRA with ESH Guidance

FO Resources to implement

F&O Resources:

- **133 JRAs**
  - ~1407 person-hours (Managers, ALD, safety professionals and workers-bargaining unit, engineers)
- **34 FRAs**
  - ~ 340 person hours
- Training/Toolbox meetings:
  - ~1000 person hours
- To augment the F&O program:
  - ~ 800 person hours

Note: At least (1500 hours spent nights and weekends by exempt F&O ESHT&Q staff)

- Lab gap analysis
  - 200 person hours by trained Internal OHSAS 18001 Auditors
- Pilot Project Team
  - ~1000 person hours to manage project and develop interim procedures & program documents.
- Assistance from ESH&Q
  - ~200 person hours
  - 7 SMEs
  - JRAs and OHSAS 18001 internal audit

Total of 6,447 person-hours!